Claims

1. Amphoteric liposomes, wherein the liposomes comprise at least one positive charge carrier and at least one negative charge carrier, which is different from the positive charge carrier, the liposomes having an isoelectric point of between 4 and 8.

2. The amphoteric liposomes of claims 1, wherein the liposomes have an isoelectric point of between 5 and 7.

3. Amphoteric liposomes, wherein the liposomes comprise at least one amphoteric charge carrier, the amphoteric charge carrier having an isoelectric point of between 4 and 8.

4. The amphoteric liposomes of the preceding claim, wherein the amphoteric charge carrier has an isoelectric point of between 5 and 7.

5. Amphoteric liposomes, wherein the liposomes comprise at least one amphoteric charge carrier and at least one anionic and/or cationic charge carrier.

6. Amphoteric liposomes of claim 5, wherein the liposomes have an isoelectric point of between 5 and 7.

7. The amphoteric liposomes of one of the claims 1 to 6, wherein the liposomes comprise a neutral lipid, selected from the group consisting of phosphatidyl choline, phosphatidyl ethanolamine, cholesterol, tetraether lipid, ceramide, sphigolipid and/or diacryl glycerol.

8. The amphoteric liposomes of one of the preceding claims, wherein the liposomes have an average size of between 50 and 1000 nm, preferably between 70 and 250 nm and particularly between 60 and 130 nm.

9. The amphoteric liposomes of one of the preceding claims, wherein the liposomes comprise an active ingredient.

10. The amphoteric liposomes of the preceding claim, wherein the active ingredient is a protein, a peptide, a DNA, an RNA, antisense nucleotide and/or a decoy nucleotide.

11. The amphoteric liposomes of one of the preceding claims, wherein at least 80 percent of the active ingredient is in the interior of the liposome.

12. A method for charging liposomes with active ingredients of claims 1 to 11, wherein a defined pH is used for the encapsulation and a second pH is used for separating the material, which has not been bound.

13. The method for charging liposomes with active ingredient of claims 1 to 11, wherein the liposomes are permeabilized and closed off at a defined pH.

14. The use of liposomes of one of the claims 1 to 11 for producing nanocapsules.

15. The use of liposomes of one of the claims 1 to 11 for producing release systems in diagnostics.

16. The use of liposomes of one of the claims 1 to 11 for transporting and/or releasing active ingredients.

17. The use of liposomes of one or claims 1 to 11 as a sustained-release formulation and/or as a circulating depot.

18. The use of liposomes of one of the claims 1 to 11 for intravenous or peritoneal application.

19. The use of liposomes of one of the claims 1 to 11 as vector for the in vivo, in vitro and ex vivo transfection of cells.